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ABSTRACTS FROM EAST EUROPEAN
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No. 106

(Electronics, Engineering, and Space Research Series)

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ABSTRACTS FROM EAST EUROPEAN
SCIENTIFIC AND TECHNICAL JOURNALS

No. 106

- Electronics, Engineering, and Space Research Series -

This report consists of abstracts of articles from the East European scientific and technical journals listed in the table of contents below.

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HUNGARY

Mrs. PASZTORNICZKY, Lajos, of the Department for Telephone Technological Development at the Beloiannis Communication Works (Beloiannis Híradastechnikai Gyar Telefontechnikai Fejlesztési Osztály) in Budapest.

"The K 40/160 Rural [telephone] Exchange"

Budapest, BHG Muszaki Közlemények, Vol 8, No 1, 1962, pp.1-6.

Abstract: The construction and performance of the exchange were described in detail. Discussed were: the general circuitry, call number systems, party-line and coin-operated receivers, electrical data, traffic accounting, remote control, and the block diagram of the installation. The marker reliably and rapidly directs register switching, line selection, outgoing calls, and incoming calls - in an order of preset priorities. Maximum capacity of the exchange is 160 lines, each of which is capable of being connected to the trunk circuit, connecting circuit, and all the registers. No references.

1/1

HUNGARY

SCHAVEL, Ferenc, and PENTZ, Miklos, of the Department for Production Planning at the Beloiannis Communication Works (Beloiannis Híradastechnikai Gyar Gyártastervezési Osztály) in Budapest.

"Manufacture of Components by the Cold-Flow Method"

Budapest, BHG Muszaki Közlemények, Vol 8, No 1, 1962, pp. 7-16.

Abstract: The designing of the cold-flow tool was illustrated by means of a practical example. Published formulae for calculating the energy requirements were described. The most suitable metals for cold-flow forming are copper, gold, silver, platinum, and aluminum. They require suitable heat-treatment prior to forming. Selection of suitable lubricant is essential. The advantages of the cold-flow forming method and design criteria were reviewed. No references.

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HUNGARY

CERE, Laszlo, of the Department for Transfer Technology Development at the Beloiannis Communications Works (Beloiannis Híradástechnikai Gyar Átviteltechnikai Fejlesztési Osztály) in Budapest.

"Nonlinear Characteristics"

Budapest, BHG Műszaki Közlemények, Vol 8, No 1, 1962, pp. 17-28.

Abstract: The first part of this paper deals with the customary method of describing nonlinear characteristics, viz., the function series method. Chebitchev's method (decomposition into polynomials) was then discussed in more detail, with special reference to bi-valent, loop-type characteristics. Finally, the methods for calculating the characteristics of quasi-linear circuits and the methods for linearizing nonlinear characteristics were reviewed. No references.

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HUNGARY

Mrs. LEROCZKI, Andras, of the Financial Department at the Beloiannis Communications Works (Beloiannis Híradástechnikai Gyar Pénzügyi Osztály) in Budapest.

"Voucher Discipline"

Budapest, BHG Műszaki Közlemények, Vol 8, No 1, 1962, pp. 29-33.

Abstract: Production vouchers, documenting all operations that involve changes in the resources, stocks, and facilities of the production plants, must be prepared as promptly after the operation was completed as practicable and must be forwarded without delay to the appropriate administrative department. Failure to follow this discipline causes serious disruptions and erroneous administration. Violations most frequently observed were described and ways suggested to prevent these. Some examples were described to illustrate potential consequences of faulty or delayed voucher preparation. No references.

1/1

HUNGARY

JUTASI, Istvan, and SAFAR, Zoltan, of the Department for Transfer Technology Development at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar Átviteltechnikai Fejlesztési Osztály) in Budapest.

"Application of Transistors in Transfer Technology" (Part 2)

Budapest, BHG Műszaki Közlemények, Vol 8, No 1, 1962, pp. 34-40.

Abstract: The following subjects were reviewed in some detail: effects of temperature on transistor performance, methods for the calculation of permissible operating temperature, and interpretation of transistor characteristics given in manufacturers' catalogs. Examples were given for the various calculating methods involved. Three references to German publications.

1/1

HUNGARY

JOBBAGY, Aladar, of the Climate Laboratory at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar Klimalaboratorium) in Budapest.

"Evaluation of Resistance to Tropical Climate by Outdoor Exposure Tests"

Budapest, BHG Műszaki Közlemények, Vol 8, No 1, 1962, pp. 41-46.

Abstract: The deleterious effects of tropical climate are attributable to temperature, actinic radiation, ambient relative air humidity, biological influences; and under special circumstances, salt content in the air in areas adjacent to the sea-shore, and corrosive gas and soot content of the atmosphere in industrial locations. Outdoor exposure stations in Southern China (Canton and Ylin). operated by the Subtropical Research Institute [original-language version not given] in Canton, China, were described. Additional stations are located in the Leijesou peninsula (near Hsueh) and in the Northern Section of the Hainan Island (near Vanlin). All these stations are suitable for the evaluation of components in communications systems. No references.

1/1

HUNGARY

HORVATH, Kalman, of the Metallographical Laboratory at the MEOB [expanded version not given] (MEOB Metallografiai Laboratorium) [location not given].

"Determination of the Layer Thickness of Galvanic Coatings"

Budapest, BHG Muszaki Kozlemenyek, Vol 8, No 1, 1962, pp. 47-54.

Abstract: The following methods were reviewed: the microscopical method, determination by means of electrical measurements, determination by chemical methods, determination by the drop or fluid stream method (German Standard DIN50-951), the method employing radioactive isotopes. Techniques for the preparation of cross-sectional specimens were discussed. The accuracies of the various methods were compared and it was concluded that the results obtained by means of the Ultra-Optimeter are the most accurate (± 0.04 microns at a coating thickness above 5 microns). Five references, including 1 Hungarian and 4 German.

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HUNGARY

LUGOSI, Vilmos [affiliation not given].

"A Device for the Determination of the Service Life of Electrolytic Condensers"

Budapest, BHG Muszaki Kozlemenyek, Vol 8, No 1, 1962, pp. 55-60.

Abstract: The device, described in detail, consists of a line adapter, switching circuit, rectifying unit, regulator, stabilizer, and measuring system. Detailed schematic diagrams are shown. There are five adjustable ranges (0-100, 100-200, 200-300, 300-400, and 400-500 volts) and five fixed ranges (85, 150, 250, 350, and 450 volts). Maximum loading capacity is 100 milliamperes for adjustable operation and 40 milliamperes for fixed operation. Required line current is 220 volts, 50 cycles per second. Operating instructions are given and the accuracy of the instrument at various operating modes is indicated. No references.

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HUNGARY

LACZKO, Karoly, of the Works Engineering Section at the F. GYES
[expanded version not given]/(F GYES Uzemernokseg) [location
not given].

"What We Often Forget"

Budapest, BEG Muszaki Kozlemenyei, Vol 8, No 2, 1962, pp. 1-12.

Abstract: This article reviews the most common faults committed during the design and manufacture of articles made on revolver-type and automatic lathes. It also gives constructive suggestions to avoid these faults. The following points were covered: selection of material, gears and threads, and piping. Emphasis was laid on improving production rate and decreasing the amount of waste produced. No references.

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HUNGARY

TOFH, Andras, and VASS, Bela, of the Department for Telephone Technology Development at the Beloiannis Communications Works
[Beloiannis Híradastechnikai Gyar Telefontechnikai Fejlesztési Osztály] in Budapest.

"The Electronically Controlled CA 20 Crossbar Sub-Exchange"

Budapest, BEG Muszaki Kozlemenyei, Vol 8, No 2, 1962, pp. 13-17.

Abstract: The Sub-Exchange is based on a DC 470-type crossbar switching unit and is horizontally multiplying in three sections. The block diagram of the unit is explained and the various operating modes described. Circuits are provided for calls between substations, between a substation and an outside line (outgoing call), between a substation and an outside line (incoming call), and an operator circuit. The following messages can be handled simultaneously: five local calls + one incoming call; three outgoing calls + two local calls; or three incoming calls + 1 operator call + 1 local call. No references.

1/1

HUNGARY

HERVANEK, Ferenc, and TAKACS, Lajos, of the Main Technological Department at the Beloiannis Communications Works [Beloiannis Híradástechnikai Gyar Technológiai Főosztálya] in Budapest.

"Modern Methods for the Manufacture of Signal Receptor Springs"

Budapest, BHG Muszaki Közlemények, Vol 8, No 2, 1962, pp. 18-32.

Abstract: The manufacturing methods presently employed in Hungary, in the USSR, in Switzerland, and in the German Democratic Republic were reviewed. A detailed description is given of the tools designed for manufacturing the springs by a composite method taking into consideration all foreign developments. Six engineering drawings were shown for these tools. The ideas incorporated from the East German method proved to be the most beneficial in rendering the new tools productive and dependable. No references.

1/1

HUNGARY

SZONYI, Jozsef, of the Planning Department at the A GYES [expanded version not given] (A GYES Tervezes) [location not given].

"Tests for Ferrite Cores"

Budapest, BHG Muszaki Közlemények, Vol 8, No 2, 1962, pp. 33-41.

Abstract: The test methods promulgated in KMSz (Kohó- és Gépipari Minisztériumi Szabvány; Standard issued by the Ministry of Metallurgical and Machine Industries) No. 629442 and 629443 standards for ring-shaped ferrite samples were modified to enable the evaluation of other shapes. The theory upon which the modified methods were based, the equipment used, and the testing techniques involved were described in detail. The tests were so designed that the results could be compared with those obtained on corresponding ring-shaped test specimens. One reference to a Hungarian publication.

1/1

HUNGARY

SOMFAI, Ferenc, of the Climate Laboratory at the Beloiannis Communications Works (Beloiannis Híradástechnikai Gyar Klimalaboratorium) in Budapest.

"Evaluation of Resistance to Outdoor Climate by Exposure Tests in a Natural Tropical Site" (Part 2).

Budapest, BHG Muszaki Kozlemenyek, Vol 8, No 2, 1962, pp. 42-50.

Abstract: Exposure sites in China are used to evaluate the resistance to tropical climate of insulating materials, cordage, rubber articles, impregnating materials, heat-hardening resins, polyvinyl chloride articles, paint systems, metal surfaces, coatings for metals, and cables. The operations involved are explained on the example of the evaluation of various types of metal coating (galvanized surfaces and plated surfaces). Finished components such as condensers, relays, coils, microphones, electronic tubes, switches, hardware, and lamps are also evaluated at these sites. The operations involved were illustrated with the example of stirolflex condenser tests. No references.

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HUNGARY

VAMOS, Lajos, Ph. D., of the Financial Department at the Beloiannis Communications Works (Beloiannis Híradástechnikai Gyar Penzugyi Osztaly) in Budapest.

"Undesirable Effects of Raw Material and Finished Product Accumulation"

Budapest, BHG Muszaki Kozlemenyek, Vol 8, No 2, 1962, pp. 51-54.

Abstract: The Hungarian economy is adversely affected by an undue accumulation of raw materials and finished products in the manufacturing establishments. For one thing, foreign exchange may be tied up by having excessive quantities of imported raw materials in stock. Excessive quantities of finished products tie up scarce storage area and cause losses in interest. Proper planning and production control is well-nigh impossible with excessive stocks. To avoid these and other undesirable consequences, the accumulation of raw materials and finished products must be avoided. Penalties in the statutes for plants that fail to observe the applicable regulations were described. There are also incentives provided for plants that are especially meticulous 1/1 in this respect. No references.

HUNGARY

SZILAGYI, Sandor, of the Product Planning Department at the T GYES [expanded version not given] (T GYES Gyartmanytervezes) [location not given].

"The STB2-25 Automatic Central Exchange"

Budapest, BHG Muszaki Kozlemenyek, Vol 8, No 2, 1962, pp. 55-63.

Abstract: This article describes the modifications in the STB-25 exchange that were recently implemented. The modified version, designated STB2-25, has an increased capacity, provides for priority calls, enables a greater percentage of outside calls to be handled, has a simplified automatic transfer system, permits the holding of calls, and provides for 'broker's call-back'. The ringing circuit is now supplied with transistorized oscillators. The new exchange has provisions for future expansion. Details of the various modifications are shown. No references.

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HUNGARY

NAGY, Bela, [affiliation not given].

"Voice and Ringing Circuits in Telephone Exchanges"

Budapest, BHG Muszaki Kozlemenyek, Vol 8, No 2, 1962, pp. 64-66.

Abstract: A cheap voice and ringing circuit was described for low-capacity telephone exchanges. Schematic diagrams and operating parameters were given for both the ringing oscillator and for a 40-cycle oscillator employed in the voice circuit. The modes for indicating a call and for indicating the 'busy' signal were described. The circuits were provided with multivibrators that operated satisfactorily even if the voltage varied from 22-32. No references.

1/1

HUNGARY

SCHMIDT, Janos, of the Climate Laboratory at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar Klimalaboratorium) in Budapest.

"Experiences in the Field of Climate-Resistance Evaluation Gathered in the German Democratic Republic"

Budapest, BHG Műszaki Közlemények, Vol 8, No 3, 1962, pp. 1-5.

Abstract: The author participated in a tour (during the summer of 1961) in the establishment at Berlin-Adlershof where research on climate resistance and on test procedures to evaluate the effects of outdoor exposure on various materials is conducted. A review was made of the following activities in the German Democratic Republic: coordination of climate-resistance research, certifying products as to their resistance to the climate at which they will be used, and development of methods to evaluate various materials and products as to their climate-resistance. No references.

1/1

HUNGARY

Mrs. SIMON, Zoltan, of the Department of Transfer Technology Development at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar Átviteltechnikai Fejlesztési Osztály) in Budapest.

"Compander Circuits"

Budapest, BHG Műszaki Közlemények, Vol 8, No 3, 1962, pp. 6-12.

Abstract: Companders are employed in communications equipment to increase the signal-to-noise ratio. They consist of a compressor at the sending side and of an expander at the receiving side. Both components were described mathematically. Design criteria were explained on the basis of an example. The effects of signal transference, the effects of noise suppression, and possible sources of distortion were discussed. The only significant disadvantage of companders is that they decrease the stability of the circuit of which they form a part. No references.

1/1

HUNGARY

RADAI, Sandor, of the Department for Production Development at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar Gyártásfejlesztési Osztály) in Budapest.

"Polypropylene"

Budapest, BHG Muszaki Közlemények, Vol 8, No 3, 1962, pp. 13-16.

Abstract: The properties, fabrication, and applications of isotactic polypropylene were reviewed in general on the basis of information obtained from published literature, from the Montecatini Company's product information pamphlets, and from lectures delivered by manufacturers' representatives during their tours in Budapest. There is no significant amount of information available from Hungarian sources. The material has potential applications in the field of communications equipment. No references.

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HUNGARY

TOTH, Andras, and VASS, Bela, of the Department for Telephone Technology Development at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar Telefontechnikai Fejlesztési Osztály) in Budapest.

"The Electronically Controlled CA 20 Crossbar Sub-Exchange" (Part 2).

Budapest, BHG Muszaki Közlemények, Vol 8, No 3, 1962, pp. 17-25.

Abstract: Block diagrams are shown and detailed description is given for the following parts of the sub-exchange: identifier, guidance and storage circuit, line selector, circuits associated with the signaling branches, power supply, and ringing, voice, and interrupting circuits. The various operating modes were discussed. No references.

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HUNGARY

NIKOLETTI, Antal, of the Physical Laboratory at the MEOB [expanded version not given] (MEOB Fizikai Labor) [location not given].

"Applications of Spectrum Analysis in Our Plant"

Budapest, BHG Muszaki Kozlemenyek, Vol 8, No 3, 1962, pp. 26-33.

Abstract: A brief description was given of the techniques involved in the analysis of metals by spectroanalytical methods. These methods proved impractical for the determination of precious metals and some nonferrous metals owing to the fact that their lines suitable for evaluation are in the ultraviolet region. Plans were described for extending the available apparatus for use in the ultraviolet wavelength region. One reference to a Hungarian publication.

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HUNGARY

CEBE, Laszlo, of the Department for Transfer Technology Development at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar Átviteltechnikai Fejlesztési Osztály) in Budapest.

"Nonlinear Characteristics" (Part 2).

Budapest, BHG Muszaki Kozlemenyek, Vol 8, No 3, 1962, pp. 34-48.

Abstract: Bivalent characteristics were discussed in detail on the basis of examples. The decomposition into polynoms of such characteristics was explained and practical examples were discussed for illustrating the calculations involved in the designing of quasi-linear circuits. Calculations for regenerative amplifiers were shown on the basis of the so-called linearization of nonlinear characteristics. Four references, including 1 Hungarian and 3 German.

HUNGARY

IMELY, Karcly, of the Department for Tool Design at the Beloiannis Communications Works (Beloiannis Híradástechnikai Gyar Szerszámszerkesztési Osztály) in Budapest.

"Tolerances for Block Tools"

Budapest, BHG Muszaki Közlemények, Vol 8, No 3, 1962, pp. 49-56.

Abstract: Standards for tolerances were developed for block tools used in cutting and shaving operations. Criteria used in the development of the standards were described. Examples were shown for the designing of tools complying with the stipulations of the applicable standard. No references.

1/1

HUNGARY

SARMANY, Peter, [affiliation not given].

"An Apparatus for Measuring the Operating Time of Signal Receivers
[in Communications Equipment]."

Budapest, BHG Muszaki Közlemények, Vol 8, No 3, 1962, pp. 57-59.

Abstract: The apparatus, described by means of schematic diagram and circuit details, is suitable for checking out time-regulated signal receivers used in rural telephone exchanges. By using suitable adapters, the device is also suitable for series testing. It has an accuracy of $\pm 10\%$ in the 3-10 milliamperere range and an accuracy of $\pm 5\%$ in the 10-300 milliamperere range. No references.

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HUNGARY

BELANYI, Jozsef, of the F GYES [expanded version and location not given].

"Analytical Study of the Production Process"

Budapest, BHG Muszaki Kozlemenyei, Vol 8, No 4, 1962, pp. 1-14.

Abstract: The production flow was schematically characterized, equations were developed for the individual factors affecting total production and for the characterization of total production, and numerical examples were presented in detail for actual case histories. In contemporary plants it is essential to study the individual production stages as a function of time, taking into account the time elapsed between receipt of the order and releasing the finished product for shipping. If an increased production rate is desired, the acceleration process should begin at the first production stage and all successive stages should be preferably accelerated at the same rate rather than accelerating one particular phase. No references.

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HUNGARY

BLUM, Endre, of the Department for Telephone Technology Development at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar Telefontechnikai Fejlesztési Osztály) in Budapest.

"Transistorized Apparatus for Automatic Placing of Calls"

Budapest, BHG Muszaki Kozlemenyei, Vol 8, No 4, 1962, pp. 15-22.

Abstract: A device was developed for the placing of calls sequentially and automatically for all lines connected to an exchange to establish whether all connections are in satisfactory operating condition. It can be adjusted to terminate the call when the signal of ringing was perceived or at any preset interval thereafter. The apparatus is used to check exchanges prior to delivery but is also suitable for checking exchanges on location. The various circuits of the apparatus were described in considerable detail. No references.

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HUNGARY

LACZKO, Endre, of the Department for Production Development at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar Gyártásfejlesztési Osztály) in Budapest.

"Results of the 1961 Mechanization Plan and Experiences Gained During the Implementation of the Results"

Budapest, BHG Műszaki Közlemények, Vol 8, No 4, 1962, pp. 23-28.

Abstract: A brief review was given of the steps taken during 1961 at the Beloiannis Communications Works (Beloiannis Híradastechnikai Gyar) in Budapest to mechanize various manufacturing processes. The two most significant achievements were in the field of transfer equipment. No references.

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HUNGARY

VERDOCSI, László, of the MEOB [expanded version and location not given].

"Coercive Force of Automatic Switch Magnets"

Budapest, BHG Műszaki Közlemények, Vol 8, No 4, 1962, pp. 29-42.

Abstract: The factors affecting coercive force and the methods used for determining the magnitude of the coercive force were reviewed. Tests were conducted with Hungarian-made Permex materials and the following process resulted in products of optimum performance: The carefully degreased articles were embedded in chips of low-carbon steel, placed into a crucible, heated under exclusion of air to 820-870 degrees Centigrade for two hours, then cooled at a rate of 100 degrees Centigrade per hour to 300 degrees, and then cooled to room temperature without control. No references.

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HUNGARY

ERDODI, Laszlo, and MAURER, Jozsef, of the Design Department at the TMK [expanded version not given] (TMK Szerkesztes) [location not given].

"HSz-Type Machines for Applying Insulation to Cables"

Budapest, BHG Muszaki Kozlemenyei, Vol 8, No 4, 1962, pp. 43-49.

Abstract: The HSz-1 machine, which produces the Etiltex cable (tin-coated copper cable insulated with textile-reinforced polyethylene), and the HSz-2 machine, which is an improved version of the former, were described in detail. In both machines the cable is covered first with a braid and is then drawn through a container in which the insulator is kept under pressure and at elevated temperature. The HSz-1 has been in continuous operation since 1961; the HSz-2 will be placed into regular operation in the near future. No references.

1/1

HUNGARY

FORGO, Dezso, of the Department for Transfer Technological Products Development at the Beloiannis Communication Works (Beloiannis Hirasastechnikai Gyar Atviteltechnikai Gyartmanyfejlesztési Osztaly) in Budapest.

"Dimensioning of Four-Pole Compensators"

Budapest, BHG Muszaki Kozlemenyei, Vol 8, No 4, 1962, pp. 50-64.

Abstract: The various calculations involved in designing and dimensioning four-pole compensators such as used in multi-channel transfer equipment were reviewed and illustrated by practical examples. No references.

1/1

HUNGARY

MOLNAR, Pal, of the Department for Telephone Technology Development at the Beloiannisz Communications Works (Beloiannisz Híradástechnikai Gyar Telefontechnikai Fejlesztési Osztály) in Budapest.

"Structure of the Switching Field in Multiple-Guidance Crossbar Exchanges"

Budapest, BHG Műszaki Közlemények, Vol 8, No 5, 1962, pp. 1-8.

Abstract: Multiple guidance was defined as the operation whereby a free path between two subscribers is selected by scanning possible paths both within and among several crossbar exchanges. Various principles for achieving multiple guidance were reviewed and their respective operating modes explained. The internal information content of the conventional type switching field was illustrated. Simulation of the switching field was discussed. No references.

1/1

HUNGARY

HARTOS, Geza, of the Main Department at the MEO [expanded version not given] (MEO Főosztály) [location not given].

"Reliability of Transfer Technological Equipment"

Budapest, BHG Műszaki Közlemények, Vol 8, No 5, 1962, pp. 9-12.

Abstract: A 12-channel unit contains 15-20 thousand components and each is subject potentially to breakdown owing to defective contact, short circuit, improper soldering, and component deficiency. Thus, reliability is an essential requirement and all equipment should be thoroughly tested before releasing it for shipment. The methods employed in testing the BK-24 and the BO-12 transfer apparatus were described. Typical results obtained were analyzed. No references.

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HUNGARY

BENCSEK, Gyorgy, of the Plant Engineering Office at the F GYES [expanded version not given] (F GYES Uzemernokseg) [location not given].

"What we Often Forget"

Budapest, BHG Muszaki Kozlemenyei, Vol 8, No 5, 1962, pp. 13-24.

Abstract: This article reviews the most common faults committed during the design and manufacture of cold-formed parts produced without turning. Covered were: selection of material, punching, die-cutting, sinking, bending, and shaping. In addition to evaluating the potential errors in each individual manufacturing step, the proper sequence of the individual steps and the overall design concept should also be critically evaluated before finalizing the entire process. No references.

1/1

HUNGARY

KESSELYAK, Peter, of the Climate Laboratory at the Beloiannis Communication Works (Beloiannis Híradástechnikai Gyar Klimalaboratorium) in Budapest.

"Evaluation of the Climate Resistance of Germanium Diodes and Transistors"

Budapest, BHG Muszaki Kozlemenyei, Vol 8, No 5, 1962, pp. 25-31.

Abstract: There are no accepted standards for the required resistance to climate for germanium transistors and diodes. Results obtained in the course of outdoor exposure tests were given in tables and the findings were discussed in detail. For diodes, the changes in voltage drop in the 'go' direction at nominal current strength and the changes in voltage in the 'no-go' direction at closing current were measured both prior to and following the outdoor exposure. For transistors, the collector-base and the collector-emitter return current and the low-frequency 'h' parameter in grounded emitter state were determined as a measure of climate-resistance. No references.

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HUNGARY

KARDOS, Jozsef, and SZILAGYI, Sandor, of the T-GYES [expanded version and location not given].

"An Automatic Telephone Network for Plants"

Budapest, BHG Muszaki Kozlemenyei, Vol 8, No 5, 1962, pp. 32-43.

Abstract: The following systems were described in some detail: the 7D-PBX postal-type exchange, the MAV [Magyar Allamvasutak; Hungarian National Railways]-type 7D-PBX exchange, and the MAV network. The MAV network enables communication between the six regional directorates and between the regional directorate and the associated sub-directorates. The former is accomplished by using the 7D-PBX exchange; the latter, by using the STB2-55 or the 7055 exchange. No references.

1/1

HUNGARY

ZAKARIAS, Gabor, of the Department for Transfer Technology Development at the Beloiannis Communications Works (Beloiannis Hirasastechnikai Gyar Atviteltechnikai Fejlesztési Osztaly) in Budapest.

"Designing Printed Circuits"

Budapest, BHG Muszaki Kozlemenyei, Vol 8, No 5, 1962, pp. 44-54.

Abstract: This article is a review of the operations involved in the planning, designing, manufacturing, and installation of printed circuits with special emphasis to the requirements of the communications equipment manufacturing industry. Design criteria and practical aspects of layout were discussed. Preparation of initial, intermediate, and final layout and engineering diagrams was illustrated. No references.

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HUNGARY

LAKOS, Lajos, of the Department for Production Development at the Beloiannis Communications Works (Beloianniszi Híradastechnikai Gyar Gyártástervezési Osztály) in Budapest.

"[A Report on the] Study Tour in France."

Budapest, BHG Műszaki Közlemények, Vol 8, No 5, 1962, pp. 55-60.

Abstract: The author visited various communications equipment factories and laboratories during his visit to France which took place from 9 to 23 Oct 1961. The highlights of the tour were described. No references.

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HUNGARY

BALASSA, Imre, [affiliation not given].

"Some Questions of Organizing Design Work in Precision Mechanics"

Budapest, Finomechanika, Vol 1, No 12, Dec 1962, pp. 353-355.

Abstract: [Author's English summary, modified] Obsolescence of products and the high degree of specialization required are the principal problems of design work to-day. Methods for solving these problems are presented. The need for technical information services in the preparation of modern designs is stressed. Suggestions are presented on drawings for small runs and individual items, organization, and working techniques. The need for including the technologists and the engineers into the planning activity, the coordination of the work of all participants, and examples dealing with the drawing room and an electrical laboratory were discussed. No references.

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HUNGARY

RUZICSKA, Gyorgy, mechanical engineer, of the Hungarian Optical Works (Magyar Optikai Muvek) in Budapest.

"Alignment of Optical Components. Part I"

Budapest, Finomechanika, Vol 1, No 12, Dec 1962, pp. 356-363.

Abstract: [Author's English summary, modified] The methods, problems, and development of optical component aligning are reviewed. To achieve alignment, there are two methods, viz., (1) adjusting the lens center by means of the image produced by the lens or by the transmitted light (optical method) and (2) adjusting the center by means of zones of identical thickness, arranged concentrically around the optical axis (mechanical method). A survey was presented on the various techniques employed in component alignment by the industry. No references.

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HUNGARY

ALMASSY, Gyorgy, Ph. D., [affiliation not given].

"Design of Electronic Apparatus in Respect to Heat [Expansion]. Part 4"

Budapest, Finomechanika, Vol 1, No 12, Dec 1962, pp. 364-369.

Abstract: [Author's English summary, modified] The principles of heat convection are discussed with special emphasis on their effect upon electronic apparatus. Practical methods of calculation are presented. An example of calculation is given for the cooling of semiconductors and of instrument housings. Twenty-seven references, including 3 Hungarian, 6 German, 1 Russian, and 17 Western.

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HUNGARY

FAZAKAS, Balazs, Ph. D., Candidate of Technical Sciences, [affiliation not given].

"The General Geometry of Cutting with Regard to Kinematic Conditions"

Budapest, Finomechanika, Vol 1, No 12, Dec 1962, pp. 370-380.

Abstract: [Author's English summary, modified] Only the cutting angles characterizing tool production are given for cutting tools and for cutting operations. These angles do not characterize unambiguously the cutting tool or the cutting process since tool displacement during cutting is disregarded. Thus, there is a need for a new system for characterization, a system which is independent of relative tool displacement and which characterizes the process rather than the tool. Such a system defines the 'active angle'; suggestions for implementing such a method of characterization are presented. The method is suitable for tools with two or more edges also. Six references, including 2 Hungarian, 3 German, and 1 Russian.

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HUNGARY

VAJDA, Zoltan, [affiliation not given].

"Conference for Signal Recording by Movable Magnets"

Budapest, Finommechanika, Vol 1, No 12, Dec 1962, pp. 381-382.

Abstract: The Conference, held from 15 to 18 Oct 1962 [location not given], was organized by the Society for Optics, Acoustics, and Cinematography (Optikai, Akusztikai, es Filmtechnikai Egyesulet). Two hundred and twenty delegates attended, including 64 from abroad representing 8 Western and six Soviet-block countries. Forty-one lectures were presented (27 by delegates from Soviet-block countries). An exhibit of Hungarian electrical appliances was presented simultaneously.

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HUNGARY

BAJZA (Mrs. LICHTENBERGER), Edit, Ph. D., of the Research Institute for Metals (Fémipari Kutató Intézet) [location not given].

"Electrolytic Polishing of Metals"

Budapest, Fincmechanika, Vol 2, No 1, Jan 1963, pp. 1-7.

Abstract: [Author's English summary, modified] The applications of electrolytic metal polishing were reviewed. The process can be used not only for the production of plane, polished surfaces but also for deburring. The techniques for electrolytically polishing aluminum, steel, and copper were described in detail. This field is rapidly developing and has a wide field of potential applications in many industries. Fourteen references, including 1 Hungarian, 3 Russian, 1 German, and 9 Western.

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HUNGARY

WALTER, Istvan, of the Hungarian Optical Works (Magyar Optikai Művek) in Budapest.

"Precision-Machining in the Optical Industry" (Part I).

Budapest, Fincmechanika, Vol 2, No 1, Jan 1963, pp. 8-11.

Abstract: [Author's English summary] The precision-machining methods of the optical industry were discussed. Some foreign techniques were complemented by data gained by experiences in Hungary. The theory and techniques of grinding and polishing were discussed. Surface roughness and surface regularity were defined. [To be continued]. No references.

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HUNGARY

FERENCZY, Jeno, [Affiliation not given].

"Development of Chipless Cold Working in the Precision Machining of Metals"

Budapest, Fincomechanika, Vol 2, No 1, Jan 1963, pp. 12-15.

Abstract: [Author's English summary, modified] Two new methods of cold metal working were described. One, the theory of which is not yet fully developed although encouraging experimental results have been reported, is the high-speed forming. The other encompasses several non-orthodox procedures, described in detail, which render series production more economical. These new procedures open a new pathway in the precision metalworking technology. No references.

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HUNGARY

SZIRMAI, Otto, of the Institute for Machine Tool Development (Szerszámgepféjlesztő Intézet) [location not given].

"Precision Machining with Abrasive Stones"

Budapest, Fincomechanika, Vol 2, No 1, Jan 1963, pp. 16-22.

Abstract: [Author's English summary, modified] In determining the optimum parameters for honing and superfinishing, foresight and experience is required because the omission of a single factor can appreciably decrease the output. According to experiences gained in Hungary, factors affecting productivity are frequently neglected. This gives rise to the opinion that the productivity values published in the literature and pamphlets cannot even be approached in practice. The tasks facing the Hungarian machine-building industry make it necessary for factories to become acquainted with the techniques of precision machining with the aid of abrasive stones. They should also become familiar with the results of current research and translate the findings into practice. These data were briefly summarized. Eight references, including 1/1 2 Hungarian, 1 Russian, and 5 German.

HUNGARY

RONAI, Tibor, Mechanical Engineer, of the Central Technological Group for Communications Technology (Híradastechnikai Kozponti Technológus Csoport) [location not given].

"Problems of Fine-Mechanical Nature in the Manufacture of Piezoelectric Quartz Crystals"

Budapest, Finomechanika, Vol 2, No 1, Jan 1963, pp. 23-26.

Abstract: The following subjects were discussed in detail: physical properties of quartz crystals, technological problems in the manufacture of quartz plates, cutting and slicing of quartz crystals, and coarse and fine grinding of quartz plates. Stressed were the factors that facilitate mass-production. Eight references, including 1 Hungarian, 1 Russian, 1 German, and 5 Western.

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HUNGARY

DENES, Miklos, and DESY, Miklos, of the Institute for Machine Tool Development (Szerszámgepfélesztő Intézet) [location not given].

"Fine Turning and Fine Boring with the Hungarian-Made Type-FA Tool Tips"

Budapest, Finomechanika, Vol 2, No 1, Jan 1963, pp. 27-30.

Abstract: The tool tips of Type-FA were developed and are produced by the Kobanya Iron and Steel Foundry (Kobanyai Vas- és Acelöntőde). They consist of 30% titanium carbide, 66% tungsten carbide, and 4% cobalt. Fine-turning and fine-boring experiments were reported in detail. Also described were methods for fitting the tips and for restoring the dull edges. Five references, including 4 Hungarian and 1 German.

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HUNGARY

STRIKER, Gyorgy, Ph. D., [Affiliation not given].

"At the threshold of the Second Decade"

Budapest, Meres es Automatika, Vol 11, No 1, 1963, p. 1.

Abstract: The journal Meres es Automatika begins the second decade of its existence with the current issue. This article reflects on the first decade and attempts to look forward to improvements in the journal during its forthcoming second decade. No references.

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HUNGARY

CSAKI, Frigyes, Ph. D., of the Chair for Automation at the Technical University (Muszaki Egyetem Automatizalasi Tanszek) [location not given].

"The Root-Locus Method"

Budapest, Meres es Automatika, Vol 11, No 1, 1963, pp. 2-8.

Abstract: The basic equations employed in the root-locus method were described and practical examples were shown for the calculation of the root-locus curve. Applications of the method to regulating systems were illustrated. The root-locus method was compared with other methods as to its usefulness in designing control circuits. Four references, including 1 German and 3 Western.

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HUNGARY

SCHACHTER, S., VALENT, R., and COSTAK, N. [Affiliation not given].

"Introduction of the Principles of Automation in the Rumanian People's Republic"

Budapest, Meres es Automatika, Vol 11, No 1, 1963, pp. 9-16.

Abstract: This article is a Hungarian translation of a paper originally published in Automatica si Electronica 1961, No 1, pp. 3-13.

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HUNGARY

KEMENY, Tamas, Mechanical and Electrical Engineer, of the Central Research Laboratory for Measurement Technology (Merestechnikai Kozponti Kutato Laboratorium) [location not given].

"Problems Pertaining to the Accuracy of Measuring Equipment Based on Strain-Gage Force and Pressure Cells"

Budapest, Meres es Automatika, Vol 11, No 1, 1963, pp. 17-22 and 24.

Abstract: [Author's English summary, modified] A large percentage of errors is introduced when the mechanical quantities are transduced into electrical values. A short review is given of the accuracy of some typical measuring systems and methods for calculating precisely the maximum and probable accuracies of measuring cells were described. Hungarian-made high-stability strain gages were described. One of these, made of bakelite, has a 40 micron thickness; it has a resistance of 110 Ohms, gage resistance with specimen exceeds 500 megohms. Resulting load cells show a creep of 0.022% in the value of readings per 48 hours. No references.

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HUNGARY

NEMES, László, of the Instrumentation Service at the Hungarian Academy of Sciences (Magyar Tudományos Akadémia Muszerügyi Szolgálat) [location not given].

"Application of Interference Phenomena in Infrared Spectroscopy"

Budapest, Mérés és Automatika, Vol 11, No 1, 1963, pp. 23-24.

Abstract: [Author's English summary] The general laws of light-interference in thin films were discussed. Infrared techniques for measuring thickness were then described and other applications of the interference principle were briefly mentioned. Finally, there was a discussion on interference fringes arising from reflection and some problems of interference filters. Two references to Western publications.

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HUNGARY

LIKACS, Gyula, of the United Incandescent Lamp Works (Egyesült Izzo) in Budapest.

"Notes on the New Statutes Regulating Weights and Measures"

Budapest, Mérés és Automatika, Vol 11, No 1, 1963, pp. 25-26.

Abstract: The Hungarian statutes, promulgated in 1960 were reviewed. They stipulate the decimal fractions and multipliers the use of which is permitted; this a feature not encountered in any other statute dealing with the same subject. For temperature measurements the degree C and degree K designation has been stipulated. The right angle of 90 degrees is now subdivided into hundredths but there is no official terminology for other fractions. Fourteen references, including 5 Hungarian, 4 German, 2 Russian, and 3 Western.

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HUNGARY

VASY, Geza, mechanical engineer [affiliation not given].

"Novelty, Currency, and Economical Factors"

Budapest, Meres es Automatika, Vol 11, No 1, 1963, pp. 27-28.

Abstract: The author criticizes certain statements contained in the article by THOMPSON, J., of the British Scientific Instrument Research Association, published in Meres es Automatika, Vol 10, No 6, 1962, p. 172. Following Vasy's comments, there is a note by the Editor, offering further comments. Four references, including 2 Hungarian and 2 Western.

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HUNGARY

CSORDAS, Zoltan, of the Research Institute for the Heavy Chemical Industry (Nehezvegyipari Kutato Intezet) [location not given]

"Properties and Dimensioning of Loose Membranes" (Part 1)

Budapest, Meres es Automatika, Vol 11, No 1, 1963, pp. 29-31.

Abstract: Calculations pertaining to the characterization of the effective surface and for the determination of the effective surface in the null-position are discussed. Tables are presented for certain functional values used in these calculations. Three references, including 1 French and 2 Russian.

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